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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,645

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Naoyuki Kobayashi

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EXAMINER

CHANG, RICK KILTAE

ART UNIT

PAPER NUMBER

3726

MAIL DATE

DELIVERY MODE

06/30/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/593,645

**Applicant(s)**

KOBAYASHI ET AL.

**Examiner**

RICK CHANG

**Art Unit**

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 May 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) that are not listed in item 6 below is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-7, 13-15 and 18-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4-7, 13-15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irie et al (US 6,769,281) in view of Irie et al (US 7,111,392; hereinafter referred to as "392").

Re claims 1, 4-7, 13 and 18-19: Irie discloses providing a pressing device, and thereby press-fitting the catalyst and the mat into the outer cylindrical housing along a longitudinal direction of the outer cylindrical housing;

detecting step of detecting a pressing force at a time when a pressing device presses the catalyst;

a determining step of determining a diameter reduction of the outer cylindrical housing, by which a clearance value between the outer cylindrical housing and the catalyst is set to a desired target value, as a function of the pressing force detected by the detecting step; and

a swaging step of reducing a diameter of the outer cylindrical housing based on the diameter reduction calculated by the determining step (Figs. 1-15 and col. 12, lines 13-27), except for detecting a longitudinal pressing force at a time when the pressing device presses the catalyst and the mat in the longitudinal direction into the outer cylindrical housing; a desired

target value is a function of the longitudinal pressing force detected by the detecting step; the press-fitting of the catalyst is carried out using a funnel-shaped enlarged diameter member, and wherein the detection of the pressing force by the detecting step is carried out by detecting a pressing force upon press-fitting the catalyst into the reduced-diameter portion; the enlarged diameter member comprises an inclined portion, and the reduced-diameter portion includes a cylindrical portion having a straight inner surface which continuously extends from the inclined portion, and wherein the detection of the pressing force by the detecting step is carried out at a position just before a rear end portion of the mat enters from the inclined portion into the cylindrical portion as viewed in a press-fitting direction of the catalyst; the cylindrical portion is formed to have a length such that at least an entire length of the catalyst is received therein; the detection of the pressing force by the detecting step is carried out by detecting a pressing force of the catalyst after the catalyst is press-fitted into the outer cylindrical housing; the longitudinal direction is substantially parallel to an axis of the outer cylindrical housing; and the press-fitting direction of the catalyst is the longitudinal direction.

392 discloses detecting a longitudinal pressing force at a time when the pressing device presses the catalyst and the mat in the longitudinal direction into the outer cylindrical housing (16 in Fig. 1); a desired target value is a function of the longitudinal pressing force detected by the detecting step ( $F_i$ ); the press-fitting of the catalyst is carried out using a funnel-shaped enlarged diameter member, and wherein the detection of the pressing force by the detecting step is carried out by detecting a pressing force upon press-fitting the catalyst into the reduced-diameter portion (Fig. 2); the enlarged diameter member comprises an inclined portion (23), and the reduced-diameter portion includes a cylindrical portion having a straight inner surface which

continuously extends from the inclined portion (22), and wherein detection of the pressing force by the detecting step is carried out at a position just before a rear end portion of the mat enters from the inclined portion into the cylindrical portion as viewed in a press-fitting direction of the catalyst (as shown in Fig. 3, if the reduction begins as 2 is inserted into 22, 16 measures the force just before a rear end portion of the mat enters from the inclined portion into the cylindrical portion as viewed in a press-fitting direction of the catalyst); the cylindrical portion is formed to have a length such that at least an entire length of the catalyst is received therein (Fig. 2); the detection of the pressing force by the detecting step is carried out by detecting a pressing force of the catalyst after the catalyst is press-fitted into the outer cylindrical housing (Fig. 8); the longitudinal direction is substantially parallel to an axis of the outer cylindrical housing (Fig. 2); and the press-fitting direction of the catalyst is the longitudinal direction (Fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Irie by detecting a longitudinal pressing force at a time when the pressing device presses the catalyst and the mat in the longitudinal direction into the outer cylindrical housing; a desired target value is a function of the longitudinal pressing force detected by the detecting step; the press-fitting of the catalyst is carried out using a funnel-shaped enlarged diameter member, and wherein the detection of the pressing force by the detecting step is carried out by detecting a pressing force upon press-fitting the catalyst into the reduced-diameter portion; the enlarged diameter member comprises an inclined portion, and the reduced-diameter portion includes a cylindrical portion having a straight inner surface which continuously extends from the inclined portion, and wherein the detection of the pressing force by the detecting step is carried out at a position just before a rear end portion of the mat enters from the inclined portion

into the cylindrical portion as viewed in a press-fitting direction of the catalyst; the cylindrical portion is formed to have a length such that at least an entire length of the catalyst is received therein; the detection of the pressing force by the detecting step is carried out by detecting a pressing force of the catalyst after the catalyst is press-fitted into the outer cylindrical housing; the longitudinal direction is substantially parallel to an axis of the outer cylindrical housing; and the press-fitting direction of the catalyst is the longitudinal direction, as taught by 392, for the purpose of meeting the design criteria.

Re claim 2: col. 10, lines 40-41 and 55-62.

Re claims 14-15: see "V" of Fig. 1.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Interviews After Final***

4. Applicant note that an interview after a final rejection must be submitted briefly in writing the intended purpose and content of the interview (the agenda of the interview must be in writing). Upon review of the agenda, the Examiner may grant the interview if the examiner is convinced that disposal or clarification for appeal may be accomplished with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.

### ***Conclusion***

5. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing

corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional).

Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick K. Chang/  
Primary Examiner, A.U. 3726

RC  
June 29, 2011